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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,119	10/10/2003	Atsuo Sakai	243905US2	8221
22850	7590	07/28/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			YEAGLEY, DANIEL S	
		ART UNIT		PAPER NUMBER
		3611		

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/682,119	SAKAI, ATSUO
	Examiner	Art Unit
	Daniel Yeagley	3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 10 March 2005.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-10 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/10/03 8/30/04</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of species III in the reply filed on 3/10/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Although applicant states that claim 1 is generic, the examiner hereby disagrees because the limitation of "an end-of-movement reaction force generation unit" (i.e.; end reaction force control portion; element 20 or element 21) are drawn only to species II and III, but does not appear to be included in the non-elected species I as best understood from applicants' disclosure.

### ***Drawings***

2. Figures 1, 2, 12 and 13 as noted in the background section and throughout the specification should be designated by a legend such as --**Prior Art**-- because only that which is old is illustrated. See MPEP § 608.02(g).

3. Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

4. The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application (as noted on page 1) or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

*Claim Objections*

5. Claim 10 is objected to because the terms “*the* vehicle wheel steering limiter” and “the threshold values” lack proper antecedent basis. Appropriate corrections are required.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Serizawa et al '441.

Serizawa discloses a steering control device configured such that a steering wheel steering mechanism and a vehicle wheel steering mechanism are mechanically separate and operationally connected by an electronic mechanism rather than by a mechanical connection (steer-by-wire figure 10 wherein the control device comprises a steering angle sensor 5 that detects a steering angle of a steering wheel 1, a steering change amount sensor 22 that detects a steering change amount in a vehicle wheel steering mechanism 9, wherein the steering wheel steering mechanism includes an end-of-movement reaction force generation unit (figure 1) that respectively generates, in a vicinity of an upper limit point of the steering angle and a vicinity of a lower limit point of the steering angle, a virtual contact resistance force that inhibits the steering angle from exceeding threshold values of a predetermined permissible range of the steering angle, based on the steering angle, the steering change amount *or* a command value (column 4-10, in particular; column 6, line 25-34, 49-66, column 7, line 1-31, 63-66, and column 8, line 45-59), such that a steering angle threshold value variation unit dynamically changes the upper limit point and the lower limit point of the permissible range based on a vehicle speed (column 5, 1-25).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 5 and 7 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Serizawa et al '441 in view of Inagaki et al '480.

Serizawa as stated above disclosed a steering control device for a steering wheel steering mechanism with a steering actuator that imparts a steering reaction force to a steering wheel, and a vehicle wheel steering mechanism with a vehicle wheel steering actuator that drives a vehicle wheel steering shaft, that comprises a control means having a steering angle threshold value that dynamically changes the upper and lower limit point of a permissible range based on a vehicle speed but lacked a wheel steering limiter and a steering change amount threshold value variation unit that changes the upper and lower limits of a permissible range of a command value  $X_n$  based on a vehicle speed.

Inagaki discloses a control means that utilizes a control device of a steering change amount threshold value variation unit (as best understood) that dynamically changes respective upper and lower limits of a permissible range of the command value based on the vehicle speed (figure 2-3, column 2-4), wherein a vehicle wheel steering limiter is configured from a position command limiter and a vehicle wheel steering limiter is configured from a steering angle limiter.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the control means of Serizawa with an additional control parameter programmed into the control unit Serizawa which further controls a steering change amount to limit the upper and lower permissible range of the command value  $X$  of the vehicle wheel steering mechanism which is based on vehicle speed as suggested by Inagaki to further provide an additional safety means to prevent the vehicle from skidding sideways and rolling over if the driver turns the steering wheel to sharply.

*Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishizaki et al '513, Serizawa et al '458, Fujioka et al '781, Sakugawa '968, Yamamoto et al '819, Takeuchi et al '079, Mueller et al '430, Kurishige et al '578 disclose various steering control devices.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Yeagley whose telephone number is (571)-272-6655. The examiner can normally be reached on Mon. - Fri; first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley D. Morris can be reached on (571) - 272 - 6651. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.Y.



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